

# FIG. 1A

cagaaaagaga cctatatgt caaatacaga ac atg atc ttc ctc ctg cta atg	53
<u>Met Ile Phe Leu Leu Leu Met</u>	
1 5	
ttg agc ctg gaa ttg cag ctt cac cag ata gca gct tta ttc aca gtg	101
<u>Leu Ser Leu Glu Leu Gln Leu His Gln Ile Ala Ala</u> Leu Phe Thr Val	
10 15 20	
aca gtc cct aag gaa ctg tac ata ata gag cat ggc agc aat gtg acc	149
Thr Val Pro Lys Glu Leu Tyr Ile Ile Glu His Gly Ser Asn Val Thr	
25 30 35	
ctg gaa tgc aac ttt gac act gga agt cat gtg aac ctt gga gca ata	197
Leu Glu Cys Asn Phe Asp Thr Gly Ser His Val Asn Leu Gly Ala Ile	
40 45 50 55	
aca gcc agt ttg caa aag gtg gaa aat gat aca tcc cca cac cgt gaa	245
Thr Ala Ser Leu Gln Lys Val Glu Asn Asp Thr Ser Pro His Arg Glu	
60 65 70	
aga gcc act ttg ctg gag gag cag ctg ccc cta ggg aag gcc tcg ttc	293
Arg Ala Thr Leu Leu Glu Glu Gln Leu Pro Leu Gly Lys Ala Ser Phe	
75 80 85	
cac ata cct caa gtc caa gtg agg gac gaa gga cag tac caa tgc ata	341
His Ile Pro Gln Val Gln Val Arg Asp Glu Gly Gln Tyr Gln Cys Ile	
90 95 100	
atc atc tat ggg gtc gcc tgg gac tac aag tac ctg act ctg aaa gtc	389
Ile Ile Tyr Gly Val Ala Trp Asp Tyr Lys Tyr Leu Thr Leu Lys Val	
105 110 115	
aaa gct tcc tac agg aaa ata aac act cac atc cta aag gtt cca gaa	437
Lys Ala Ser Tyr Arg Lys Ile Asn Thr His Ile Leu Lys Val Pro Glu	
120 125 130 135	
aca gat gag gta gag ctc acc tgc cag gct aca ggt tat cct ctg gca	485
Thr Asp Glu Val Glu Leu Thr Cys Gln Ala Thr Gly Tyr Pro Leu Ala	
140 145 150	
gaa gta tcc tgg cca aac gtc agc gtt cct gcc aac acc agc cac tcc	533
Glu Val Ser Trp Pro Asn Val Ser Val Pro Ala Asn Thr Ser His Ser	
155 160 165	
agg acc cct gaa ggc ctc tac cag gtc acc agt gtt ctg cgc cta aag	581
Arg Thr Pro Glu Gly Leu Tyr Gln Val Thr Ser Val Leu Arg Leu Lys	
170 175 180	
cca ccc cct ggc aga aac ttc agc tgt gtg ttc tgg aat act cac gtg	629
Pro Pro Pro Gly Arg Asn Phe Ser Cys Val Phe Trp Asn Thr His Val	
185 190 195	

## FIG. 1B

agg gaa ctt act ttg gcc agc att gac ctt caa agt cag atg gaa ccc 677  
Arg Glu Leu Thr Leu Ala Ser Ile Asp Leu Gln Ser Gln Met Glu Pro  
200 205 210 215  
agg acc cat cca act tgg ctg ctt cac att ttc atc ccc tcc tgc atc 725  
Arg Thr His Pro Thr Trp Leu Leu His Ile Phe Ile Pro Ser Cys Ile  
220 225 230  
att gct ttc att ttc ata gcc aca gtg ata gcc cta aga aaa caa ctc 773  
Ile Ala Phe Ile Phe Ile Ala Thr Val Ile Ala Leu Arg Lys Gln Leu  
235 240 245  
tgt caa aag ctg tat tct tca aaa gac aca aca aaa aga cct gtc acc 821  
Cys Gln Lys Leu Tyr Ser Ser Lys Asp Thr Thr Lys Arg Pro Val Thr  
250 255 260  
aca aca aag agg gaa gtg aac agt gct atc tga acctgtggc ttgggagcca 874  
Thr Thr Lys Arg Glu Val Asn Ser Ala Ile  
265 270  
gggtgacctg atatgacatc taaagaagct tctggactct gaacaagaat tcgggtggcct 934  
gcagagcttg ccatttgcac ttttcaaattg cctttggatg acccagcact ttaatctgaa 994  
acctgcaaca agactagcca acacctggcc atgaaacttg ccccttcact gatctggact 1054  
cacctctgga gcctatggct ttaagcaagc actactgcac tttacagaat tacccttactg 1114  
gatcctggac ccacagaatt ccttcaggat ccttcttgct gccagactga aagcaaaagg 1174  
aattatttcc cctcaagttt tctaagtgtat ttcca 1209

FIG. 2A

20	*	20	*	40	*	60	*	80	*	100	*	120	*	140	*	160	*	180	*	200	*	220	*	240	*	260	*		
Cdd80_Human	:	MCHTRROGTSPSKCPYINFQOLLIVLAG_LSH_FC_SGV	...	VKEVATLSC	...	GHNSVEELAQTTRYWQKEKKMVL	...	75		Cc880_Human	:	ITNNLSIVILAIRRPSDEGTYECWVWIKYEKDAFKREHIAEVTLISVKA	...	DEPTPSISDDEFIPTTS	...	155		Cd880_Human	:	NIR_RIIICSTSGGFPEP_HLSWLENGEELNATNTV	...	SQDPETEL_YAVSSKIDF	...	NMTTNHSFMCLIKY..	...	22	*		
Cdd86_Human	:	MGSNLLFVMAFLISCAAPLRIQ	...	AYENETADLPCOFANSONQISLSELV	...	VIEWQDQENLVIN	...	60		Cd886_Human	:	IRTKNSTLEYDGIMQKSQDNVTEL	...	SVSEFDVTSMTIECILET	...	DKT	...	GA16817596	:	SNITENVYINLTCTSSILHGYPEFKRMSVL	...	SVSEFDVTSMTIECILET	...	DKT	...	21	*		
B7-H1_Human	:	MIF_LLMISILEQIHQ_IQAILETVTPKELYIT	...	EHGSNT_LCNEDTGSHVNLGAIT	...	ASLQK	...	61		B7-H1_Human	:	TP_EGLYQVTSVILRKP	...	PGGRNFSCVF	...	WNTH	...	B7-H1_Human	:	GA16817596	:	TP_EGLYQVTSVILRKP	...	PGGRNFSCVF	...	WNTH	...	19	*
B7rp-1_Hum	:	MRIFAVIFM_TYWHL_LNA_FTVTVPDKLYVV	...	EYGSNTM_TECKEPVEKQIDLAAL	...	IVYWEMEDKNTI_Q	...	66		B7rp-1_Hum	:	REEKLFNVTSTLIRINT	...	TNELEFVCFERRLDPEEN	...			B7rp-1_Hum	:	B7-H1_Human	:	REEKLFNVTSTLIRINT	...	TNELEFVCFERRLDPEEN	...			21	*
Pro352_Hum	:	MRLGSPG_MLRRGSPGNGVHGAIALGAIWFC	...	AMVGSDEVELSCACPEGSREDLNDV	...	IVYWQTSSESKTV	...	62		Pro352_Hum	:	INKPDDNSLQALONDFTVLMNRGLYDVVSVLRIAR	...	TPSVNTIGCCIEVNVLQON	...			B7rp-1_Hum	:	GA16817596	:	INKPDDNSLQALONDFTVLMNRGLYDVVSVLRIAR	...	TPSVNTIGCCIEVNVLQON	...			21	*
Btf1_Human	:	MESAAALHFSRASPASLLLILLISICAL	...	ALVGTDATECCSFSPERGERSLAOL	...	NLIIWQLTDTK..Q	...	74		Btf1_Human	:	MANEOGLFDVHSVLRVVL	...	GANGTYSCLVRNPNVQQ	...			Btf1_Human	:	GA16817596	:	MANEOGLFDVHSVLRVVL	...	GANGTYSCLVRNPNVQQ	...			22	*
Btsf2a2_Hu	:	MESAAA1HFSLSPASLLLILLISICAL	...	ATVGENNTIRCHLSPEK..NAEDM	...	EVNRERSQFS..P	...	73		Btsf2a2_Hu	:	KEVSMPPADGLFVAVLQV	...	KSVRNMSCSINNTLIGQK	...			Btsf2a2_Hu	:	GA16817596	:	KEVSMPPADGLFVAVLQV	...	KSVRNMSCSINNTLIGQK	...			22	*
Btf4_Human	:	FHVSLLVQLITPC	...	AMVGEDADLPCHLEFPTM..SAETM	...	ELRKWVSSLR..Q	...	61		Btf4_Human	:	KEVSMPPADGLFVAVLQV	...	KYVRNVSQSVNTLIGQE	...			Btf4_Human	:	GA16817596	:	KEVSMPPADGLFVAVLQV	...	KYVRNVSQSVNTLIGQE	...			23	*
Btn3a3_Hum	:	MKMASSIAFLILLNEHVSLEFLYQLLTPC	...	AMVGEDADLPCHLEFPTM..SAETM	...	ELRKWVSSLR..Q	...	74		Btn3a3_Hum	:	KEVSMPPADGLFVAVLQV	...	GSGEGVSCIIIRNSLIGIE	...			Btn3a3_Hum	:	GA16817596	:	KEVSMPPADGLFVAVLQV	...	GSGEGVSCIIIRNSLIGIE	...			23	*
Btn_Human	:	AVVGEADAELPCHLSENA..AVVGEADAELPCHLSENA	...	AMVGEDADLPCHLEFPTM..SAETM	...	ELRKWVSSLR..Q	...	72		Btn_Human	:	SESRNP_DEEGLFTVAAASVIIIRD	...	SSGGGVSCIIIRNSLIGQE	...			Btn_Human	:	GA16817596	:	SESRNP_DEEGLFTVAAASVIIIRD	...	SSGGGVSCIIIRNSLIGQE	...			22	*

FIG. 2B

Cd80_Human :	VNQTFNWNNTIKQEHFPDNLIPSMATITLISVNCIEVICCLITYCF..	*	300	*	320	*	340	*	360	:
Cd86_Human :	RLLSSPESIELEDPQPPDHI..PM..	*	320	*	340	*	360	:	288	
GA16817596 :	RELTIASIDLQSOMEPRTHPTWLIHIFPSCHIAIFIATVIALRK..	*	320	*	340	*	360	:	306	
B7-H1_Human :	HT...AELVTPELPLAHPNERTHLVIGAILL..CIGVATIPI..	*	320	*	340	*	360	:	273	
B7_rp-1_Hum :	LIVGSQLGNDIGERDKTENPVSTGERNAATWSILAVICLIVVVA	*	320	*	340	*	360	:	290	
Pro352_Hum :	DAHXSVTIEQPMTEPPE..AIWVTGGSVCLAILVALA	*	320	*	340	*	360	:	302	
Btf1_Human :	RESVTEPESEMPSV..SPCAVALPILV..VIL...MIFI	*	320	*	340	*	360	:	307	
Btsf2a2_Hu :	KETVTEPESEMPSA.....SPMVAVALAVILTASPMMVSM	*	320	*	340	*	360	:	270	
Btf4_Human :	KTASISTADPFRSA.....OPWIAALAGTLPI	*	320	*	340	*	360	:	263	
Btn3a3_Hum :	KTASISTADPFRSA.....OPWIAALAGTLPI	*	320	*	340	*	360	:	313	
Btn_Human :	KRVEISTIPASSIPIRI.....TPWIVAVAVILWIGLITIGS	*	320	*	340	*	360	:	294	
Cd80_Human :		*	380	*	400	*	420	*	440	*
Cd86_Human :	VFKSSKTSSCDKSDTCF	*	380	*	400	*	420	*	440	*
GA16817596 :		*	380	*	400	*	420	*	440	*
B7-H1_Huma :		*	380	*	400	*	420	*	440	*
B7_rp-1_Hum :		*	380	*	400	*	420	*	440	*
Pro352_Hum :		*	380	*	400	*	420	*	440	*
Btf1_Human :		*	380	*	400	*	420	*	440	*
Btsf2a2_Hu :		*	380	*	400	*	420	*	440	*
Btf4_Human :		*	380	*	400	*	420	*	440	*
Btn3a3_Hum :		*	380	*	400	*	420	*	440	*
Btn_Human :		*	380	*	400	*	420	*	440	*
		*	380	*	400	*	420	*	440	*
Cd80_Human :		*	480	*	500	*	520	*	540	*
Cd86_Human :	VATVGVCRSVIE..RKGEVILLIPONGWITLEMF..GNQYRALSSPERILPLKESLICRV/GVFLDYEAGDVSYFYNMRDRSHIYT	*	480	*	500	*	520	*	540	*
GA16817596 :	YKPKTPEPRNLKIPPEPPRKVGIFLDYETGEISFYNATDGSIIYTFPHASFSESEPYLP	*	480	*	500	*	520	*	540	*
B7-H1_Huma :		*	480	*	500	*	520	*	540	*
B7_rp-1_Hum :		*	480	*	500	*	520	*	540	*
Pro352_Hum :		*	480	*	500	*	520	*	540	*
Btf1_Human :		*	480	*	500	*	520	*	540	*
Btsf2a2_Hu :		*	480	*	500	*	520	*	540	*
Btf4_Human :		*	480	*	500	*	520	*	540	*
Btn3a3_Hum :		*	480	*	500	*	520	*	540	*
Btn_Human :		*	480	*	500	*	520	*	540	*
		*	480	*	500	*	520	*	540	*

FIG. 2C

**FIG. 2C**

Cd80_Human :	560	*	580	*	600
Cd86_Human :					
GA16817596 :					
B7-H1_Human :					
B7rp-1_Hum :					
Pro352_Hum :					
Btf1_Human :					
Btsf2a2_Hu :					
Btf4_Human :					
Btn3a3_Hum :					
Btn_Human :					
					

## FIG. 3A

ataagaagct gaattaaggat gatggcagt ggggtggaa aaggagagcc accatgcaaa 60  
aagtatccag gagggagaat taacaggact aggggatggg ccatattgc aagatgagaa 120  
atgcagaggt ctaagattct agctnnnnnn nnnnnnnnnnn nnnnnnnnnnn 180  
nnnnnnnnnnnn nnnnnnnnnnn nnnnnnnnnnn nnnnnnnnnnn nnnnnnnnnnn 240  
nnnnnnnnnnnn nnnnnnnnnnn nnnnnnnnnnn nnnnnnnnnnn nngcataaac 300  
catatttcc ccagaggagg attagtagga aaggaagctg ctgggtggaa agtatctta 360  
tagcagtgtc tgttcctcg tttgctcaag gggacagtgt gccaggaaag tccccgtgga 420  
agggcaagga agaagggaa gttaaagcca gtggcaggtg atccaagaat ctttctgtt 480  
gctagagcta tgttacatgc tgccctttca tgctctaaaa ataagagtgc tggcaagtgc 540  
caggcctgtt ggtgcagctt aagatgatac ctcccttggaa tatatatgca tctgaataag 600  
gaaggctatc ttctggtcaa gctaaggat gccatgaga ttccctgtg gaaagcactt 660  
aattctgttc ccagttgtta cctgctgtaa gatctccctt tctaaaataa aaacaagaat 720  
acagctcaact gaggaccta cattccctc tagctactga ctcatctc ttccctttt 780  
tatagcaactc ttcttgagag agttgcctat atttggcc acatcttac ccattctctt 840  
ttgaacctat tcaagcttc atctgtacaa aactcaactga tactgtgctt gtcaggatca 900  
tccatgaccc ccatactgct aaatgcaact ctcaagaga tttggctcta ctgatcaactc 960  
cttttagca ctgtgttttta aaatataggat ttatttattt ttttaggtatg gtgaggccaa 1020  
tatatcagga aatgactgtc gttaaaaaa gttatgttgc ctcacagatc ccaagagaag 1080  
gggggcacac catgccacaa agggccacat gggaaagcac cagggtcagc caggagggtgg 1140  
gtgggggtg cgcaagatct ttattgtggt ttcaacagga agaaatgggt gaagcagggt 1200  
gagtggtt aggattagct gatataaata atttcagcag gctctgggc atagggcgt 1260  
tccctagtct tctggtactt ggccctgggg tgattaaggc agttgcatac tggtggaaat 1320  
tgaaagccc ccaataaaatg aggcaaggatg gggatgggc tctgaaatgg gttggttgc 1380  
atttgaaagg tgtgctcatg ggcaaggatg ttactctc tttagaggatc gaattggcta 1440  
accctggag cggcagtccc ttcagggtca gcaaggcccc aggtgtcaaa gcatcagaat 1500  
acagaaaata aaatgcatgg ataatacaca ctgccatttgc ctttgcatttcc 1560  
atcttctctg ctggtgaccg ctcttcacaa agatctataa atgttggaaat accccatgtc 1620

## FIG. 3B

tcagtccttg ggcactctct ttccttatctc tctgttaggtg atgtaatgca gatatccatg 1680  
actttaaatc tttaacactt ctgcattgat gactcctaaa tttacatctc taccccaact 1740  
gcctactaaa cacctccact tggctatcta ataggcattt caaaccaaat ctacaacaaa 1800  
cgtaactctt tttcccttc cttaatggc ttctccccca gccttctcca ttttaataaa 1860  
cagcatctcc attgccttag tgactcaagc cccaaactta ggaattttcc cagatttccc 1920  
tcttttctc aaactatata tctagcctgt cagcagttcc cttcagggtct ttttcnnnn 1980  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 2040  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 2100  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 2160  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 2220  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 2280  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 2340  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 2400  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnna 2460  
ctaannnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 2520  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnngctc 2580  
catttatatt tannnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 2640  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 2700  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 2760  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 2820  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 2880  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 2940  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 3000  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 3060  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 3120  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 3180  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 3240

### FIG. 3C

nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 3300  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 3360  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn ttgtgttta 3420  
aatatatata cacacttaga cacatataac cctcttcgt atatcaatta tacttaata 3480  
aagctgtgn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnctcgcca 3540  
acagaccact tctcaccct actagcccct ctactctaag ctatcagcat ttctgcaaac 3600  
acattcctaa ccgatctcac tgcttgaat cttgccagca acctctccct ctcagcaata 3660  
gtctattgcc tacaccaaag cttagttgtc tcttaatgtat gtaaatgagg ttctatcatt 3720  
ctcctgaccc aaaccctcca ctgctttca tcacactcag agcagctcg ctgttgccctg 3780  
atttagatgt atggctccaa cagattccc ctgaagaaat gattccatgg ctgataaaag 3840  
ttggaaagcc tcctcagtt cagaccatta tcagattagc tgtgtgctct gtccctttcc 3900  
tcaaccataa gaagtccatg gataaagaaa gttcagagt aaaggagaaa gcatgggagg 3960  
tacagcagga ccaagggtgg gcattcgcag cccccaccct catcagagcc agttccctac 4020  
tctccctgtc taaacctctt agtaagaggt agttcaagag aggggcaaac tcaattccag 4080  
cactcaaag cacttgacta ctttgctcag tcaactagca agtatttatt gagaatgtag 4140  
ctctgttcta tggagtctta tttcaagtg tcagactccc agacatccag tccaggtaaa 4200  
gaagatggtg tccattattc atttgacaaa caaagttggg gttcaaggc cagctattga 4260  
aaaaagctat ggaaagcttc atgagacgtg caggttaactg ccaatatgtg tggttcaca 4320  
ggactgggtc atattcagaa acggccatta gaaaaggaag aagaacttct catttggatt 4380  
tataaagagt gtcttgaaa ctcttaattt atatcttctc ttctccagga aatcaaccta 4440  
taacttctcc tcccagctcc actctaccat ggtctgtcac cttccccaaa tgatttgta 4500  
ttccctgtt ttcaaaagtg aacaaagaac caaagaccga gcaaagttc acaaggccct 4560  
gagactttca attgtctatt tcagatcaaa tacagaac atg atc ttc ctc ctg cta 4616  
Met Ile Phe Leu Leu Leu 6  
atg ttg agc ctg gaa ttg cag ctt cac cag ata gca ggtaaagaaag 4662  
Met Leu Ser Leu Glu Leu Gln Ile Ala 18  
gacaaaggga gaggcttaag aaagaagagc aggtgggtgg tcctagccaa agccaaaaat 4722  
gagaatgtgg ccctcaggct gaggctttc tttgagagga cgtatgattt ctgggttattt 4782

## FIG. 3D

ccaagcacca caaaaaaaaaa aagagtcccc atggggcctt atacatgccca atgtccctat 4842  
ctgacagaaa cggtgactga gaatattgtt ccatctattc ccactatcca gtgagggtaa 4902  
tgacaagaag acaggatcac tcagaccatg taaatctaaa ctgatacaag agggcagggg 4962  
ttgagttccc ttaaaggtga gatgccaagc agctgtcccc ttcctttctg gcagggagag 5022  
taaggagaca atggccaggg aacaccgtta ctctaaagat aatgtcttga agacattctg 5082  
catattatta gttgtttctg ttagtttctt ttttggaaag caacaatagc agccgttgg 5142  
cattcataacc ttaatgtggt ttactgagtc ttcctaaaac ccaaatgaac aatgaacacctt 5202  
aaggctatcc ctttggactt gaagaaagga cttctattgg aggtgaggg tgagcagaaa 5262  
gaaaagcagt ttcacagttt gttgttctcc tggggaaagg agttcagacc attcgagggt 5322  
gtagttagaa ccatgagtgc actatttgg atgaacacca ggagctaaga gagtaacata 5382  
gaggtgtgga cagaggatta agtcctcaag acaatagccc cagcccatg ggaaatcatc 5442  
tttctgctca tgattgagaa ataatggctc ctttggact tggataacctt tcgaagagct 5502  
ttctcctccc tactagctgg ttccagatca ctcttcaccc agtcacattc ctctcactca 5562  
ctttagctgc ccagcctggt ctggacttag agacatgcac ttggggccct cctcaaagga 5622  
agaccctgag atattctgt tacttctact ctgctcctgc ctgcaggccc agctaaagga 5682  
actttcatg ttttcttgc aaggaaccct gcctggctgg catttttagag acaagcaaaa 5742  
ggggcaataa cttcccttgct acaaaaacagc ttcaagtttc catagagtga taagggaaat 5802  
gagggccaaa agacactgtt ccccatcctg tggcaggact gggggcttca ggagaaaaact 5862  
tggggaatgt gtaacctctg tgggttgta gcttaaaaac actgagatcc tgggtttct 5922  
gtctttgttt tttgcctttt ctcttagaa aggagtgagc tagggtgaca aggggcaaca 5982  
ttttttatcc ctcattggct ctttctacag aggaaggatc ttttcttcta agataatcatc 6042  
cacaagacaa tgaagatagg cactagctcc cagtttaggt tactaatggg gcaaaaaggaa 6102  
gagcattnn nnnnnnnnnnn nnnnnnnnnnn nnnnnnnnnnn nnnnnnnnnnn nnnnnnnnnnn 6162  
nnnnnnnnnnnn nnnnnnnnnnn nnattttgc ggtgagggaat ctagaactca 6222  
gaaaaggtac ttaatttccc caagattaca tagttattag gtgacaccgg caagattca 6282  
acaaagctaa tgcctttct actttactgt gctaccatga tggatggtaat caaaaatggc 6342  
agacaaccca taaatcttcc aactttggaa taggttttg cactgaagtc tgaatatgga 6402

### FIG. 3E

tacgtattga atgtttattc tggatattca cagaatcaaa aaatatgtgt aatgaattat 6462  
gttgctgaat taactgaaag gaaagtaaaa atgttagcgt ttctcatttt cttcacgaat 6522  
ttggaattct tttctgcttt ccactatgca gataacatca gttcagacaa atattaaata 6582  
cctacctaataa tttagaatgcc ttctcctcat gggattttt taaaatcttg tcatttcatg 6642  
tctcttaat taaagagttt tgattcaga ggagggtacc tgcaaaagaa aacaacaaaa 6702  
aaactaaagg atctgagaaa taattagtgt ttacttctgg ggaggggagg aggtctggg 6762  
tggggtaaa aaggatagc ttatctatta tgtatattca ggttttgtt ttttacaaga 6822  
agcatgtatt aggnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnc aaaaaattct 6882  
catataaaaa tatgaaagta atcagactgc aacactcagt gcctgagaca gagctacagc 6942  
tatcagggtg tccagacaga cagaagatta cattttcttc cttgctcctt gtacagcccc 7002  
agacctgcat gcttcattga aaagaaaaaga agataccctga attaaatcaa tgtgatgctt 7062  
agtaccctat cagtgcacat ttctttcnn nnnnnnnnnn nnnnnnnnnn cactnnnnn 7122  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 7182  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 7242  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 7302  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 7362  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnca 7422  
cttatggcgg tattctcagt cattacaaat aaataaaaac aatccatatg ccctggagaa 7482  
tttgattcca ggagtaggtc tagaagaact tcaactggag aatggataga gaaatcatgg 7542  
tatatttgca gnnnnnnnnn nnnnnnnnnn nnngatagca tgtgaataaa ttaattacaa 7602  
aaacatatga ctacatctat tattatatacgatgttagata aattacaaaa acatgttaact 7662  
acatctatga atcttagagc ataatattga gnnnnnnnnn nnnnnnnnnn nnnnnnggcc 7722  
agaagataac acatagcaca atgtcccttt cataaataaa tatattgctt aagcataacct 7782  
tatatataga agataaagct taaaaagtaa agaagag 7819

## FIG. 4

attatcaatt atgagggtgn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 60  
nnnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 120  
nnnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 180  
ctttattttt tcatgaaaga aattgctgaa gaggactaaa agaagttta gtaagcattc 240  
aataaatgta tgttctttat agttccaaa tcagcaaata tagacatcct gcattttaa 300  
ggagatttat atattttatt ggacatgctg taatttattt aaccacttcc ctgttggtag 360  
acattatttc cattttcttc tgctagatta atgcttgaaa aaaatgtgtg ctcctaaag 420  
actgtgatga aagttgcctc tgaataaaac tcaaacaat cattaatcat taactcttc 480  
cttacttgta tgctcttgg atgctctact gtgttatcta taaaataaag tttgaagtga 540  
aaaatttaggg taaaacattt tatatcattt ttaaaggata tatacatgga tgtacttaca 600  
tatgcatgtt taaatttata taccataaca tttatttctt tttttaaaaaa 650

## FIG. 5A

tatatttgtt tttttctta cattttatt tcaaaatcta aggacatctt ataacccaga 60  
aatatttttt ataccttgc atgtcttaga ggaaagagcc accccagtct ttttcattg 120  
atgttttct tctctttcg tactccagag gtagatgaaa accagaggc cacaatgacc 180  
atggtgatgc ctgaggtcat tctggggcac agacctcagc ctaggttact ccacttcgcc 240  
tatctttaga tccaaaacta ccctgctgac tgctgagata aacaaaggag aataatcagg 300  
ttggggaaag gatttctatg cgaagacatg tctccatgca gtcctcctac actgagcaga 360  
gcatgagtca ggtgcttaga gcaggatttt gtcctaaacc aggaacttca gagtttctg 420  
aagaatgtgg ctatgtaaag caccggggca ccccacccctt acttctcaag tacattacgt 480  
ggcaagtctg aaaaaactta cacttctgtt gttaaatgtg ggggataaaaa tataaactta 540  
gtttcaagag gaagctatct tgggaggtaa tgcaaataat tcgttgtgtg tttcctgaat 600  
aagtgacagg tgctgactac cattgatgct tcattgcaat aaaatgcaaa gctcccccaa 660  
gaattttga aatgcataa gctaggtgtt ctaatctagc aaaaggacct gcatacatga 720  
attttcatg ctttgccaa gtctttgcc cttagttt gttaagggcc ccacatgaat 780  
ggaaagcctg tgggtgcagc ttaattttgt agttgtggaa accttccagt tttcctcctt 840  
gtctaataacc ttcaggagtt caatcctagg ttgaagctt attaataac catgtggcat 900  
gtaaagtaga aaacaaaaca tctttccctt agcatacagc aaaaaaaaaa aaaaaactca 960  
ctcatggatg tagtgtacac atgccagtgg atataatgc ataaactgcag tcattggtag 1020  
cacagaaata aatgtgcatt gaagacacag agannnnnnn nnnnnnnnnnn nnnnnnnnnnn 1080  
nnnnnnnnnn nnnnnnnnnnn nnnnnnnnnnn nnnnnnnnnnn nnnnnnnnnnn 1140  
nnnnnnnnnn nnnnnnnnnnn nnnnnnnnnnn nnnnnnnnnnn nnnnnnnnnnn nnnnnnnnnng 1200  
gctagcccag tgtctgactt actgtgttta agaaatatac actattacgc tacttccag 1260  
tgacagtcca aatgcagacc agtgttataa ctctacnnnn nnnnnnnnnnn nnnnnnnnnnn 1320  
nnnnnnnnnn nnnnnnnnnnn nnnnnnnnnnn nnnnnnnnnnn nnnnnnnnnnn 1380  
nnnnnnnnnn nnnnnnnnnnn nnnnnnnnnnn nnnnnnnnnnn aggcaaggtg 1440  
gtaaaagacg cttgcacgtg caaatgttac tttgtgttaac tnnnnnnnnnn nnnnnnnnnnn 1500  
nnnnnnnnnn nnnnnnnnnnn nnnnnnnnnnn nnnnnnnnnnn nnnnnnnnnnn 1560  
nnnnnnnnnn nnnnnnnnnnn nnnnnnnnnnn nnnnnnnnnnn nnnnnnnnnnn 1620

## FIG. 5B

nnnnnnnnnn nnnnnnnnnn nnnnnnnnn nnnnnnnnct tagtgaatct aatttgcagc 1680  
tggcctgag aaaaaacctc ttcatagaat tgttgcac agtgccttga ttgcctctgt 1740  
aacttacaat aagcaagaat gttcaggat ttcaaaaatc tattgcattg cctaaacctc 1800  
ttattttgttga tggagtaatc aagctcaaag tttgcattgtc tttagaaactt tacttggggc 1860  
aaaatttagac caagtaacaa ttaatcttct aggtattctg agctattcag acatatgatt 1920  
catgtttgct aattgcttct ttctttgtt aatattagct gaaaaatgtc acctgtctga 1980  
caagtagcat attttatgcc ttttacttctt ggcacgcatt cttacaaggc agacaggaaa 2040  
aataggaaga aaatggactt ttatcaaagg cccaggcagt aaagagggga gttctgctgt 2100  
aagctaaggg gagttccaga ggaagttata ggcgttccct ttcttatgac aagaaagcat 2160  
agtgcagtaa ataaatttgc taaatagatt caacagtctc taccctaaatg catctattta 2220  
attcttgcatttgc ttagcaacta accttccttgc taagccccat tttcttccct 2280  
gtttcctgtt tatcaaatgt aattaaacaa gagaagtatt atagaagagt aaaagtagta 2340  
ggtaattctt gaacttggca tatgattact acatatttgc tgaatagttg aatattttc 2400  
ttcaaggaca gattggattt ggtatcaggt ggctctgcatt taagttataa gggacttaat 2460  
aactcaagta tttaaggacg gcttccatca taaagggatc tgcccttaag agggtcccat 2520  
tatggagattt ctgaggtgag agctattcca agtgcattgtt ggattaaat aaaagaatca 2580  
tacaggaaat ctcttttac atgccttattt ccagggttgc ttacactcacc ttatagccct gcccctgtgc 2640  
gcagatatga ttagcattgtt ttacacatg tacactcacc ttatagccct gcccctgtgc 2700  
ccctcctgca caaaagaatg ctggcacac gtgaactcct ctctgttagaa aggcacatta 2760  
atgttcttagc catggttaaa acagggatag aggcaagcca aaaatgtcgg tcatttgaaa 2820  
taaatctcaa gtttgcatttgc atcactatca agtgcattgtt gtggcaatta agaatgc当地 2880  
tttgcattgttgc cacaggcaag ttgcattgttgc atgaaaggaa agcagaggatg aatataaac 2940  
cagggtcatttgc ctgcatttttgc ccctctcttcttgc ttatgttgc ttatgttgc aagctctttaa 3000  
ctagaacttgc ttagtgcatttgc ggtactggat atatcaaagc aaactcagcc tggcattttgc 3060  
cttcaaaatgttgc ttgcaggata gtggaaagaa aaacttgcatttgc cagaggacat ctgcattttgc 3120  
aatcattcaa gcagcagaaa acccaaaatgttgcatttgc ttgcattttgc atcagagaat 3180  
ggactgtcatttgc ggttagtaaa atatccttgc ttgcattttgc aatgcatttgc ttccacatata 3240

FIG. 5C

FIG. 5D

aatgactgca gggcttgggg ggtcagggac tggaggtggg agaggcctct gagagcaagc 4920  
agtgctgtcc accagaagct ctgtctgggg tgcccaagaga ggagcaaagg gcagtcagct 4980  
gcacaggagg gaatgtttgg aggagagagc cacctcagat cagcgggtca agaatccac 5040  
tcttgcccaatggatgggg caaaggagaa aaaggattcg ccacgggaat gtccagataa 5100  
gacaggtgcc ttttggaaaa tgggggtgag atgggtctca ggttacactt cgtaagaact 5160  
ggaatgtaaa gtaaaggcag acaatgacaa aatatcttgt tttctttca gct tta 5216  
Ala Leu 20  
ttc aca gtg aca gtc cct aag gaa ctg tac ata ata gag cat ggc agc 5264  
Phe Thr Val Thr Val Pro Lys Glu Leu Tyr Ile Ile Glu His Gly Ser 36  
aat gtg acc ctg gaa tgc aac ttt gac act gga agt cat gtg aac ctt 5312  
Asn Val Thr Leu Glu Cys Asn Phe Asp Thr Gly Ser His Val Asn Leu 52  
gga gca ata aca gcc agt ttg caa aag gtg gaa aat gat aca tcc cca 5360  
Gly Ala Ile Thr Ala Ser Leu Gln Lys Val Glu Asn Asp Thr Ser Pro 68  
cac cgt gaa aga gcc act ttg ctg gag gag cag ctg ccc cta ggg aag 5408  
His Arg Glu Arg Ala Thr Leu Leu Glu Gln Leu Pro Leu Gly Lys 84  
gcc tcg ttc cac ata cct caa gtc caa gtg agg gac gaa gga cag tac 5456  
Ala Ser Phe His Ile Pro Gln Val Gln Val Arg Asp Glu Gly Gln Tyr 100  
caa tgc ata atc atc tat ggg gtc gcc tgg gac tac aag tac ctg act 5504  
Gln Cys Ile Ile Tyr Gly Val Ala Trp Asp Tyr Lys Tyr Leu Thr 116  
ctg aaa gtc aaa ggtgagtggt gtcaaggact agaattccatg gaagctctct 5556  
Leu Lys Val Lys 120  
ccaacagagg atctgcaagt cacagaaacc cattaaaggt agctcaagca aaaacaagca 5616  
ggctgcttt aaggagacag ctatttcaga gaaaatgaaa gcatctgctc ggaaataatt 5676  
tttgcacatct gactacaaag cagccgaagt acaagtgaaa gggggtagga cctataggaa 5736  
taaaatggga ctggaggaag ccaggaaaat tagtccctga aatgtggag ggtatgaaaa 5796  
ataagctttg cctaattcac aattctccca tggAACATCC ctgacttgat tattaagata 5856  
ctcttttca atagtttata ccctgaatcc agagtttta aaaccatggt ttgcccggccca 5916  
ttcatggatt aaaatatcaa tttagtgagt agcaaccaga tgcacgttcc ccgccttta 5976  
aaaaataatg tatagaagag aatagacaga gtagatcaga cgatatcaca gagtaggact 6036  
gagtaactgta aaactaattt ctgagggacg tttgtgtgtg tttgcgtgtt gggcatggt 6096  
ataaaatttt ttttcttac tttggatcat aaaaagttac aatgtggaa aacactgctc 6156

## FIG. 5E

aaatgcaagn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 6216  
nnnnnnnaga gtcccatgaa gtctatagtc gtccctattc ctctggattc agggatctc 6276  
ccactccagc acaattgaaa atctaaatat aaagagaatc ttacacactt tgttgttct 6336  
agaaaaggta atttgaggaa agacatataa caactataaa aaatagattt tgctgttca 6396  
ttggctttagt gtctccagc ttgaatgctc tgagataat gatccaata tttctctggc 6456  
ctcttccat cccacgcatt ggacctcaga tggctgtac tgtctctag agggtttgc 6516  
ggtttggcc ccaaaaaacc attaaccttgcagaaatgt tgtaacttta tgatctggta 6576  
caaagaagga caaacttagag ggactggaca tgaggatgaa tattgtgttc gcccttatnn 6636  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 6696  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 6756  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnaaa gaccctcagt 6816  
tgttacaggg gcagtgaccc ctcacacacttcaaccatcaa tgactcacca ggaaagccat 6876  
tagcttagat gtaactgtt tctatcttta ttgcatttcc tacatccagg cagcagctgg 6936  
gaggaactct agaacactga agttgtctg agttccctta atgtaaggct gtacattctc 6996  
aggatgcctt gatgtactcg aatatctgca accctaaatc accacctctg tttttattga 7056  
tctctatctg aatgctgtat taatggcca ggcctctgc ccattctctc aaactgagaa 7116  
ctgtctctca ttccctggga ggcaccctgc ctactcctta cctagatcag ggatttctca 7176  
gttgtggaga gatttgttcc ttatagtgtt ggtcatcaa ctggatatt tggggattac 7236  
aaagactttt caagggatgt atggcacag gcagtttagt gaagttagt cctagatct 7296  
catctccccca aataactcgt tccaaaattt gacgacgcctg acaatgtgca tgccaggcaa 7356  
ggctcttggg gttcccctaa aacacttcctt ctttaagcc taccactcac tcatacatgaa 7416  
tatagtccat tgcccaggg tgtaaaaccc tctatagtgt taaataaaag aatgattggg 7476  
aacattgaca cctgatggaa ctgttatgac taaaaaccctt tttgcaata atgtggatc 7536  
taatttctg cttcaacaa aattgaagga ggccttataa aagttataa ctgataatca 7596  
aaaatgagta attttgcca tgtaatcag gtcaagaat gaaatggcat tgctgttaacg 7656  
aaactgcttc cattccattt gatttactca tacgaacaag attccttagc ctttataagc 7716  
tacaaaaaaa tgaaaaatag aaatagaattt gaggctgaat tctattatataa atcatcattc 7776

## FIG. 5F

caaccatgtc atatggttct tcggattcat gaataattt gaaaagagag ccatatccat 7836  
cttattaagg gacacattcc caataaattt tcatcttca tgttaataa ttatcaatat 7896  
tcataacatt ttacatttt atcaaataatg tgttaataat aatagaatn nnnnnnnnnn 7956  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 8016  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 8076  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 8136  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 8196  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 8256  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 8316  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnattag atcttaatgc agaacacct 8376  
gaacattaa agcttcatacg tcacaagaga aaagtttca tttcaatgc tataaatatt 8436  
ttgttgtgt aaagacatat aacgataatc aatacaaaaat ctgtcaaaca aaaatatgtt 8496  
acattaagat aaaattctgt agggaaaggtg aaatttggaa tgagttcaa tgaatgaaaa 8556  
gaaacaattt agacagagaa gnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnncttagaa 8616  
ggaattgaat agatttagtt ctttacccaa aaagcctctg ttatttgtct tatttattta 8676  
ttctctttt tccacattct ccagtctcat tccccctttt taacacagga aattattcca 8736  
gcatgtttca tacatattct ttgttgttta agagcttatt taaaatatgt aatattgtt 8796  
tagatgcata tattttttt cttgtggaaa ctatattgtt ctatataat atattttaga 8856  
aatggacaca ttannnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 8916  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 8976  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 9036  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 9096  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 9156  
nnnnnnnnnn nnnnnnnnnn nnt 9179

## FIG. 6A

tagatctcag ctttctttag gcagggagcc atatctgtt aattcactca gcatatactg 60  
caaagaagca gnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnta 120  
gggagaagtg cagaataaat atacccaact ctttactatg tatagacatt atctaggtct 180  
ttatTTTTT tctcttctta atctcaaaga aaacagagga aaggaggaag taaaaagtaa 240  
atTTTgcct gaagatgtt ggaaaaata ccaaataaag tgagatagtg ggtatctag 300  
tgatTTTtat tttccgtcc tcttctggc ctccaattgt gaaataattt atagcactgt 360  
aagaaagaag ccacaaatg tgtagctt gaccactgtt gaggnnnnnn nnnnnnnnnn 420  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 480  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 540  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 600  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 660  
tttcacatgg catgaagtac caagctctat aggaatcaga aaataaagtc ttatttcttt 720  
ttcttctcta ttgtcca gct tcc tac agg aaa ata aac act cac atc cta 770  
Ala Ser Tyr Arg Lys Ile Asn Thr His Ile Leu 131  
aag gtt cca gaa aca gat gag gta gag ctc acc tgc cag gct aca ggt 818  
Lys Val Pro Glu Thr Asp Glu Val Glu Leu Thr Cys Gln Ala Thr Gly 147  
tat cct ctg gca gaa gta tcc tgg cca aac gtc agc gtt cct gcc aac 866  
Tyr Pro Leu Ala Glu Val Ser Trp Pro Asn Val Ser Val Pro Ala Asn 163  
acc agc cac tcc agg acc cct gaa ggc ctc tac cag gtc acc agt gtt 914  
Thr Ser His Ser Arg Thr Pro Glu Gly Leu Tyr Gln Val Thr Ser Val 179  
ctg cgc cta aag cca ccc cct ggc aga aac ttc agc tgt gtg ttc tgg 962  
Leu Arg Leu Lys Pro Pro Gly Arg Asn Phe Ser Cys Val Phe Trp 195  
aat act cac gtg agg gaa ctt act ttg gcc agc att gac ctt caa agt 1010  
Asn Thr His Val Arg Glu Leu Thr Leu Ala Ser Ile Asp Leu Gln Ser 211  
aagagctgcc cccacttcct aggtctatca gtttagggttc agacaagaaa cagatggcat 1070  
actcgagtga tttgaggaga gtgtataaa gggactgtt acaaagggtgt gatcaccatt 1130  
tggagaaact acaaaggata gtgcagaaca ctggggcttc aatgttggga gggcaattac 1190  
cactgttggaa gaagttactg gaatcagaag ggagctgttag ggaaagcccc acttcccagg 1250  
agctgttagcc acagaatagg gaagctgcc a catgcagcga ctccaaaggg tggaaactgg 1310  
atgaatgaat accccaactc atttcctcc caccctccaa tctcctgcta gcaccccca 1370

## FIG. 6B

ttggctgaac ccagctagaa gtcagagaat acaagggtcc actgttgtat tccataaaaag 1430  
tcaacttctc agggctcaga gcaatattga catgtacaga atagatctgg agaggaaaca 1490  
gaaaatatct agtacaatag ctaatcactg tgattcatgc acagtgtcat gagccagcag 1550  
gatgaatatt ccttgctgt acttgctgcc agtcagctgg ttatgggttt ttccaagaaa 1610  
tttggtctct aacaaaattc ttcagagcct ttactgacta tgctggatat ttttggaaagg 1670  
gatcccatac ttttgaactt catacagcag aatttcaaac aatcttggga aaataacaac 1730  
tttatctgc ccagtaagga caactaacac ctagtatcat aatcatttcg taagagacag 1790  
gtaatttcat caccgagtgc atat 1814

200 190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10

## FIG. 7A

ctactgagaa gggatatact ctcagactaa aggacagtcc ctagtactga ttcaatctgg 60  
ctttatagaa aattcaactat attgtcattt tatttcacag tttgccttt gtcttagctg 120  
gtaagacaga gcctatgata aggacttgtg tggcatgcag gtattaatt ggcaacccca 180  
gagggcagaa gcaagagatt taggagttt agagaggta atataagagt atattatcaa 240  
agtttagtg tggacaacag aaactcaaattt attcaaggac cagcatgtag acagcctcct 300  
aagatgtcta ctcagacaaa gaatttcagg tggaggact tgccatctg cttcacgccc 360  
attgggtgac aggaatatga actccattct gctgctggc tagacatgca tgtggctga 420  
gtgagcttc cccagttatcc gtagcatcag aaaagtcgca gggcagaaag aaaagtatcc 480  
aatttgaggt gaattactga cttgaagt agtgaagcc taactagaat tctacccag 540  
ctggctgaag tggaaaggtga ggctgagagg aaataaggca ggactgcaca gtcccccaatt 600  
gtactgttca aatccactca tgcccttcat taagtcagct ctgccactga gccttccagc 660  
tggaggcag ccacaatctc tgcagaagat ttaatataca ccagttgtg gaacaagctg 720  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 780  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 840  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 900  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 960  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 1020  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 1080  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 1140  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 1200  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 1260  
nnnnnnnnnn nnnnnnnnacc tgcagcactg ggatagccct ggtacagacg tagaacatgc 1320  
ttgaggaggt tgcaggagg aatgagttt gacccatgc acactatcca ccatcaagttt 1380  
cagttgggtt gaggcagaca tggatgtttt tgaggcatca gagatatctg atgctttatg 1440  
ccaaattaaa attaattttt tcatggatgtt acactgtatcc acagaccaga ctccaagaac 1500  
tttgcagtga ctaaataccctt atctcatcat aactttccctt gtatccatctt ctggaaaaaa 1560  
ttcttccctt atacagttt cagaggcagc tagatgcact gtcatctctc ccctttccc 1620

## FIG. 7B

acttcctac ctatccacaa tttactaccc aatgccaaca ctaaagttag cccaaacttcc 1680  
ttcttaactaa attattagtt tagaaggaaa gagaggagtc atgctaagga tcttaactgn 1740  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 1800  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 1860  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 1920  
nnnngggag aggaggggag aggaggtagg gaggggaaag aaagaaacta gaaatccatc 1980  
aatttttagga ccaacttcag gtaaaaaaaaat gaattaggca agttggtctt tcaacattct 2040  
ctacctctct ttatatcatg gttgagacca cagacttctc acctcatgaa agatgaactc 2100  
taactaattc atactaaagc taaaggctct aaagaggatt aaatatgagc aatcccacga 2160  
gaactttttt cccctggaat tgtttattca actgtcggttc gttatatgga atttcctgccc 2220  
tggtaagtg taggcccaga ctggatga attgttagttt tctagaaaga cgcttcttat 2280  
ataagaacct ctccagggaa acaggggcct gtatgagatg aattgagaaa taactttaca 2340  
ccactgatta tgtcagtgtt ctattctgca tggtagagat gtgaaaggc agactgacca 2400  
ttgctctgga agccttacg ctgtgagaag ttaacagtgg agtaaaatgg ccactccact 2460  
ctcttcatgg aagccaacat ggcttactaa atagtcaaca accatggag agacctgtgg 2520  
ggtcttcatc agagctcagg atctcctagg gtatcactca taaatacagc catcagggag 2580  
atggagaaat ctttgtcag ccagaaattc tcaacctggt tttacccatc cttcccaact 2640  
ttgtattcgt cctactgttt actgacatgg atcctctgct tcattaacca tcccttcctc 2700  
accacatgct ctctgaacct ggctgcaccc tttctacctc catgcctct ttgctcagg 2760  
ttttccacat aaatatcatt atttccctct ctactagctc caagcccacc ctctctctgg 2820  
ggcagctcag tcactccagg gcacaagggg gtcttccct catcccacat tttgagaccc 2880  
actacctgga ccatttggc ttgttgcac tatgcttgc ttttaattt ctatttatt 2940  
ttccatgtat tttcattgtt cacacaagtc ttctttattc cacactaagg caaaagcaga 3000  
gtcctgtgtt cataataagt gctcaacaaa tggtgggtt attgggttgg agattccatc 3060  
ttagataatc gcagtcccat catgccagct accagactgt gtggacagcc aggtcagagc 3120  
agccaaatga tattctagct tgtggcacaa ataccagcaa caaaataacc aaagtcacac 3180  
atctgcctct gagttcctgg cttctatttc tcaagggcat ttttaagttt tcttatgact 3240

## FIG. 7C

gttcccttc tactcattctataaattga gctgtggact gctgtgaccc acaagcttct 3300  
ccgaaagtca atgtataaaaa caaacacgga aacgaagagt atgggggtg gagggtactc 3360  
cactgactct agaatggatg actgaacatt ccaaatttca agcacaagtt agggagcaac 3420  
agatcatttt cctttgaaa tagggttct tctgctcagc cagttgtgt atttcatta 3480  
gaaaatggaa tgggactaca gcacaaaaaa taaatataaa aggacccttg tagggctggc 3540  
agaaaagaga atccttccta ggagacctgg aggtgattcc aggcnnnnnn nnnnnnnnnn 3600  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 3660  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 3720  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 3780  
nnntcagaaa gtgtcaaac agtaaaaaaa aatggtatat ctagcaagtt gcatgcctta 3840  
cttgcgtt catgaagttg tggcaaggat aagacaaata ttttgccca ttgcattcatt 3900  
atatcattgc taagagtatg ccattatnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 3960  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 4020  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 4080  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 4140  
nnnnnnnnnn nnnnnnnnnn nnnnttaatt aattaaat aagaaacgac aaaagagtat 4200  
gcaagaattt taaaacaact tagaggaata tgtatgagga tacaggctaa gctaccataa 4320  
tgaagagacc tcgaaataca gtgagaagcg agacagaagt atcttcgtt ccatgtaaaca 4380  
ctcaggttgt tcagagcgc taagcagcta tgccatag agtcattcag tgatccagat 4440  
tatttcattc tggtgctctg ccattctcca ggtatgttgc cctataaaat tgtcaaagct 4500  
cagtcagtgc caaacccatg tttcaacctt cagaaagtaa acgagtggtg gaaaacacat 4560  
tcaatgtttt aaggccaaga cttgaaaac tcactcttt agcctgaact tagattacat 4620  
ggctggccccc acttaactat agggaggct tggaaacata gtctctgaga agccatgtgt 4680  
ccagctaatt ccctaatact aaagttgaaa gaaagaatgg attaaccagc agtataaccac 4740  
aaggtaacaa atgacttagga ggatcaggct aggtggacta gaaaagagac agtcaattca 4800  
gtgcaacaat tccatattga cactttcat gtagctgtg cttggctcta tctagagagg 4860

## FIG. 7D

actcagaggt agtttagata aggccttgc cctccaaata cagtctaagc agactgatt 4920  
cctactggat gttcaacttt ggagtcttca gggatgagta gggcttctgt acgtggaaga 4980  
gactatgagg gaacctgcac aggacaaggg tttgcataaa gacactgagg tagggacctc 5040  
tcctgttgc gggacagtga gaggcccagg tctccttgc tcacaaagtg cttactaagc 5100  
acttactaga aattaagaag cagattataa tcaatatggg ttatccaatg tttggatgag 5160  
caaggctcct tatctttct tcgttaatgt taatcacact cttttggatg gagacaata 5220  
tctgtggggg cttnnnnnnn nnnnnnnnn nnnnnnnnn nnnnnnnnn nnnnnnnnn 5280  
nnnnnnnnnn nnnnnnnnn nnnnnnnnn nnnnnnnnn nnnnnnnnn nnnnnnnnn 5340  
nnnnnnnnnn nnggctcaga ctaaataatg tctaattctt tctccagtaa aacaatccgt 5400  
ggttctcaga tagcactgtg ctggaggtag tggggttga gggctggaa gttgggagga 5460  
ctgagccctt cccgctgagc agtttcgtcc agttttcctt gtaccagcct gtcatgttta 5520  
ttccatgtga atgactccag aggcaaaatt caagcttttga aatagggcac aaattaactt 5580  
gagtaccctt tcatttcctt gtaggtgaac actcctctag ccctgcctt tgcgtctg 5640  
gagcccttgt tctaattctgt acacaccaga ggactttaca aggcttccc cagcctccag 5700  
aattattctt ctgatccacc ctctactaaa ctcaccctt cctcagtgtc aggacgttga 5760  
aaaaccgaaa caaggcaaag ggccaattgt aataattcac actaaggcat gagtgactag 5820  
gttttagtata ttaacactac ctaggatatt ctatttcttc caaaaggatc ctgttaatcc 5880  
ttgaaattta acaactaatg gtatagattc taagcactgt gagtactgt cagtgggga 5940  
aagacatttt tgggctgaga gacttgcca ctgnnnnnnn nnnnnnnnn nnnnnnnnn 6000  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn aagaaagatg attagatnnn nnnnnnnnnn 6060  
nnnnnnnnnn nnnaaaaaat aacatgagag nnnnnnnnn nnnnnnnnn nnnnnnnnn 6120  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnn nnnnnnnnn nnnnnnnnn 6180  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnn nnnnnnnnn nnnnnnnnn 6240  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnn nnnnnnnnn nnnnnnnnn 6300  
nnnnnnncaca gagctagccg tggctgtc cacccactca tgtggccagc ctgtgggtct 6360  
acctcttagt tgccatgtaa caggattctg gtgctttcc tttgcccagg t cag atg 6417  
Gln Met 213

FIG. 7E

FIG. 7F

tccgttccag ctgtcttgg gagaatggaa tggagtcaca ctc当地 7943  
aaatcctctc ctc当地cttc accccaatct taagagttag tgaggatatc agtagctccg 8003  
agctggagg taaagctcaa gttctactg tgattaggag acctttctta ccaaataagaa 8063  
ttaagtgaat aaatgtgcaa acaatttctt ttatattttt aatgaaccag agagaaatca 8123  
tggttgccta tataaccctt gtctccaact cacttgcatt cagatctgct ttcttacatg 8183  
tgtctgccat gcacacaaac ttgtgtgcca tggaaaaggg ttgagaactg ctggtgatgc 8243  
agacagagct taaaannnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 8303  
nnnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 8363  
nnnnngcagc aagagaagga acatttaca gcttattggc cgaacttcac tgccgctagt 8423  
gtggttcaac ttggactaca gagaatctt cctaactggt ttccctgtat tcactcctgc 8483  
tacctccaac ttggctgttt ctc当地ttt gctataatag gctttaaaa atcataaaatc 8543  
taccatgtgt cctctgtcca gaccttctcc atggcttctt attgctact ggatgaagtt 8603  
ccaacgagcc caggatggtt tgactcatgt ctccagctt aactgcatca ccatcacctt 8663  
cattgtctaa agctctaacc acacagatt ttcttagtcc cagaggcatg gcagttttc 8723  
aattccgagt tttctcatac aatattgtct cttctttaaaa tatttttct tgggtccac 8783  
ctgagttgga gtc当地ttt aaatctcagc taagcttata ct当地atcaag tcttcttcaa 8843  
ttctacctcc acgcaccaca cccattacat taaatcccct tattatatgt ttccatagca 8903  
cctactttct tctttcagt atactcagca cacaatcaca tgtctaggat ctgttttaat 8963  
agcttggact accaattaaa ttgc当地ccct tt当地attgtc cattgattcc tcaagttaccc 9023  
acatgcccattt ctttagcaaga agttcagttt ctcccttta tagcatgtac ttctccaccc 9083  
cccacaaact gccagaaagc ttacttagcc cacagggcca gtgctaggca gctaggttag 9143  
tcctccagag ggc当地gggtt ttgagcagtt gctgtctact cc当地ccatgc agaatctctg 9203  
gtccctccag atgtctccat cc当地tgc当地 aaggtaacct tgctggccatc gatccccaca 9263  
cagaccacag tgctacaaga ttacagttct tatggttccc caacacatgc tctgtcattt 9323  
gtcccaaagc aggaccccta tgggttgatg aggtaggagg aggtccctgc ctttagccaca 9383  
gctgcacaca gccagccctt tcccttctt gccctcatgt tgagccctggg acgcccagttcc 9443  
taacttcctt ctcttcagtt cctcttaggg cc当地gggtat cctgaatttc ttagtccatt 9503

FIG. 7G

gcaaaatgttaa gtaaaagaagc agcaggcttg gtcctttcc ttccagatgg cttcttagct 9563  
cctgaacaga tttacccacc tatacctcag tgactagctc tgtgtactaa agtgtattgg 9623  
gagggcagcc attattggtc cataaaaggt cctgcttacc attttcccct aagaggaacc 9683  
attcaacagt ttggggctcg agggtgacct gctggctct agagaagaag ctggcaactt 9743  
ctgttgcaaa ataatgttaa attctgcttc atctgcttgt cttnnnnnnn nnnnnnnnnnn 9803  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 9863  
nnnnnnnnnn nnnnnnnnnn nntaaacatt gaacctacta tatgcaggtg agtatgctag 9923  
atnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 9983  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 10043  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 10103  
nnnnnnntgn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 10163  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 10223  
nnnnnnnnnn nnnnnnnnnga tttgaataca ggtctgttg actccaaac ttgtggccta 10283  
tttggcataa aagtgcattaa tacaaattgg ttcaatatttttctt ttgaacaatg 10343  
gaaggagaaa gtaagttca atccaaaata attgagtgac ttatacattt acttgctgag 10403  
ccaatggcaa agtcaagtta gaatccagca gaagtcacca gctacagaat ctatgtttt 10463  
agaacatgtc ttcaatgtttt cagaacagtg tttttttttt tcttttgtga aggaacagtt 10523  
atcatcatag gctggtaaca gttcacccat cagcaccaggc ccatgaacca gactctaagt 10583  
ggcacagccc tagaagattt agccagaatt ttacagaggt ttaaagacca aatatgctgg 10643  
tttatggtta cctgtggccc acagagaatg gcagcactaa cctcaggcat aaatgaggtt 10703  
cccactgaag ccaacattca agagcaattt ctatgggtt accattggc tcctttcaaa 10763  
tgcaaaaccctt catgaaagag actacagtgc tgaatagaga cctccaaattt ccaggccaag 10823  
ctcaggatag tcatgaggaa attactaaaa acctggtata tagggcaaaa gcagaatttt 10883  
gaatggactg atttcaggaa cccaggcaat ggcaggagtt gggcattttt tcctaaaaga 10943  
gaatcagagt gggagggat atgtgaaatc agaggtaag aaaaaagtga aaacctnnnn 11003  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 11063  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 11123

## FIG. 7H

nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 11183  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 11243  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 11303  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 11363  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 11423  
nnnnnnnnnn nnnnnnaaaa attaaaagaa agatgtgaaa tcaaggaaac ttactggta 11483  
gcagcatccc attatgtgaa ctgtgcttc tgaaccagta acttgagtta ctttgagcca 11543  
gtatcagtca cttatacctt agtcaaaaat taattgatca gacattctga cctggaccag 11603  
ggaaggcagg cagaagtagc agtcaagact aaagcagaaa agggagagct aattctgcag 11663  
ccagacattt cctggattga atacccaaat tagtccctca gccttaagt gcctgagggc 11723  
caggagtaga cagaggaatg gaaagtgtga gacttcttg ttcacactct ttgccttaggg 11783  
gccagattt gctttatgca ttaccatccg aagtcccagg ccacagtcaa catttgggct 11843  
tcgctatgtg gatttattta gatttactt ttgtcctgcc atatttaat ctataagcca 11903  
aacagtttc tcattaatct tattccattt ctggaatttt tcctttca gac aca aca 11961  
Asp Thr Thr 258

aaa aga cct gtc acc aca aca aag agg gaa gtg aac agt gct 12003  
Lys Arg Pro Val Thr Thr Lys Arg Glu Val Asn Ser Ala 272

gtgagtaagc atgattttta cttttcttcc ttactttctt ttctctctca gcttgaattt 12063  
taaagtaacc actgttctat taattcatgg aaggcaactg aatagttcca gcttatagaa 12123  
tcttcctgtt tggtacgtt tcagcgaagc ctcgttctta gccccagaac aatcatgcca 12183  
tctttgctc ggtctatatt cctaagcact cctagatgat actgcactgg acctctggc 12243  
tcacatagtt agaaaacagag ttaaaatcga acagcaaaga gaagatattc aactgcgttg 12303  
caattgacaa tggatgttt tgcaacaaac aatgattaag aagtacattt ttgtgggctc 12363  
tgagtcaaga gtaatatggg aaaaacacaa gtctcttcat gaggttgcac ggtttggagc 12423  
tggaatctgt ggaggagggaa ggatatgtac taggggtcag aagaagtggg ttactaaaat 12483  
catthaagcct ggttggatga aaagcttgcac ctcagggaa gcagnnnnn nnnnnnnnnn 12543  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 12603  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 12663

## FIG. 7I

nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 12723  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 12783  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 12843  
nggcaccaag agatgagggg ggcagtctt gccatatatt tggctgaagt aagtcaattt 12903  
gtcattcctg catgagcctt tataaacaga agtaagtaac caactactat ttggtcattt 12963  
gagttgtcca agaggccagg gttctgtcta atacctgttc atgcatgaac atgccaacct 13023  
agattgcatg cagactacca gttttgggtt tttgttagt tcagcaggat ttttctcagc 13083  
tcactgcctc tcaaacttcc agcaacaaaa ggacatctgt gatatcagaa tctaccactc 13143  
taagtattt gatgcaatag caatgaatat ctgagtaaat ctagtgggg agtggggca 13203  
ccctgttagcc aaaatgattt aacaaaatca aaccaaaattt ttggaaatga tgccttggta 13263  
caatgaagag actactttagt gtaggtttga cttatcta atcttatttt ctttaccaat 13323  
acctaattttagt gaatttaaatt atttcttagat agctttggaa aggtccctta aagaggcacc 13383  
agcataaccac tgccagatct aatccccca aacactgtt tcatcatcat catgtcatct 13443  
cttgcctcta tagatcatat caaatcccttcc ccagagttt tcagggcttt tgacaactag 13503  
ccacatttca ctaagccaaac tcatctacca ctcttcaaca aaactttcc tcaagtttag 13563  
ctgctccacc aacaccactg ccatgagctc attcccactt ctgtggcttt gctcatgtt 13623  
gttattttt tggagtgtcc tccctattcc ttcttacttg tcccaatccc aacttttgc 13683  
atggctact ttaagataca gtaatgagta actttannnn nnnnnnnnnn nnnnnnnnnn 13743  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 13803  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 13863  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 13923  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn tttttaaat ttaattcaan 13983  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 14043  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 14103  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 14163  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 14223  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nntacataca 14283

## FIG. 7J

caacactctc ttgcttaatc tgtaagactc tctcccccac tcataccctt ttattttcc 14343  
tctgcattgt acacacaatc tataccactc ttaagcacat gattacagcg ttatttctg 14403  
gctgcttcta tgtgtctata ttttaggtcc acctggtcaa tataataaag tggatatta 14463  
gtgttaatgc aactatatgg tatttgatat ttgtctttct gtccgtttat caatgtttct 14523  
tatagnnnn nnnnnnnnnn nnnnnnnnng tgtctgattt tgaccaaatt tgactaaata 14583  
cnnnnnnnnn nnnnnnnnnn nnnnnnnnngt tgagtctatc aactcaaaaa 14643  
agaataacct acaacaataa caagttcag aacattttt aaattactga ttttatgagn 14703  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnngaat ccattgccta 14763  
gaaattgcca tggtaagat ttatatttgc ctcaggccca gacagctcag ggcttgaca 14823  
ttcccacacc cattctctgc catccagtt ctatctcatc ccaaaaccat ccattatgag 14883  
gagagtgtac agctctaggc tgcccgagg ccattccgca ctctcatttt gtgactcggc 14943  
atcttggag atggagtctt gggacttagc ctggacatgt cccttgcattg tacttcttac 15003  
aagactttta ttcagatgaa tattttccct tccaacttaa gaagcacagg gcttgctgg 15063  
tttgcttcac taaccagcaa ctgaagcaag acctgacttg tgaaaatgcc taatagagtt 15123  
cagtagttgc gctgtttcac catttcctgg atctcttgcc tttgtgcaca tgatagaatt 15183  
gcacttctct gtgattaatt tggatgatgg tggatgtcatg taactcgctt tggtaatata 15243  
aatgtaaatca taagtgtatgc gtgttatttc tggatggaaat atgtaaatgt tggcatatgc 15303  
tttgcctat tttctttatc catctggcat ggttaaccagt aacattcttag gtagtaattt 15363  
ctcccatcgt ctcagttctc gatgtactaa aattgacaga gtccctgct gaccctcaat 15423  
gtacatggaa catgaacaag aataagcttt tgtttttat attgagattt tggatgttt 15483  
tgttcctaca gcattaccta gtttactcta atacaacatg gaaaaaactg gaacctataa 15543  
taaatagacc ctacgttgcctt atttaaactt ctagttctga ggaataataa tggggggaaa 15603  
tactttctat ataataaaaaa aatagaaaaat tgcaaaataa aaatataactt atgtatcatt 15663  
catgtcctat taaaaatgtt atttataagac tcaccatatt cccttcctcc agaaaaatag 15723  
aagaaaaat atgaaaaatgc ctgtaatcat gttttggat tatggatca agtattgctt 15783  
tttactttta tgtttctga atttttggat tacttcacta cattttgag tgccctgatg 15843  
tattactttc aaaaagaaga agaatacttt ctgaagccat ttcaaccatc cccactcacc 15903

## FIG. 7K

tctctagatc ccagtaacca aatacattat ataggactct tcatacgtcc ttatcaagtt 15963  
taggaagggc gatgctatac cttctttaaa ggacacctac caatgtctta gttgccttc 16023  
aaagactcct agcacagcta aatgtgatgg atatgctcta aggatataag agctgaagtg 16083  
acttgcataa ggtcatatca taacttactg ttagaaatgg agctagaact cagacccact 16143  
gagtccctgt ctgtgacaca ctgcccttc catttggaa agttgttctt gtatctaact 16203  
ttatctgtgc tactatttgg gcctagccat tctccctttt atgcagacaa gcagataaac 16263  
agtaaaactt taggagtggaa ttatgatacc atagatataat atcatctatc ctttacaaaa 16323  
tagttattac agtcatcaag cttggtagt agttacaga ccatgtatcc tagctannnn 16383  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnntgaaaca 16443  
gtagcagacc aaaagaagtc atgattccca gcatagtgct nnnnnnnnnn nnnnnnnnnn 16503  
nnnnnnnnnn nnnnaaacct gtattaagtt tctgttattt gcaagaccct gtcagttagg 16563  
ccatgtggaa actagaagga tgaatttatac agtcatccaa gattcttaca attaagtatt 16623  
accgataagg tactcaagaa acagttctca ttcacataat ttgggttaaa acaaaaagaa 16683  
gccagcttcc tatataacttt tggccagtc ttacgtttt ttgtttgtt ttgtttgtt 16743  
tcatacgat cccgacttcc ttctaaagaac ttccacctga gaactgacca cagcgtcagc 16803  
attccacatg ggtgtgttcc cttccctt tcccatatca gtggtttcca atttctttt 16863  
cttttggcac tataaacctt tcgcaaagga aatattagac agaactccta catgtcaagc 16923  
aaattaaaat agtggtgaaa ttagagtggaa ggacataatc accctatcat ataggctatt 16983  
tgtccatatac atatgttcc ctacaaaggc ctctaaagggn nnnnnnnnnn nnnnnnnnnn 17043  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 17103  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 17163  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 17223  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 17283  
nnnnnnnnnn nnnnnnnnnn nnctctaag ataccttggc cttcttggaa catattggaa 17343  
aaatcatgtatc gctctcaaat tatccctatg tcctgaagcc caccttacca tcaatcctca 17403  
gaaataccca acccatgtca ggcaacttca cactttctt cttcaggcag cacagttgtc 17463  
gaaataccca acccatgtca ggcaacttca cactttctt cttcaggcag cacagttgtc 17523

## FIG. 7L

tcagggaggg aggagagtgc tattagcaag aggagtcaact aacagcttca ctcacctgtg 17583  
cccatgaatt ttaatggtg tgaaaagtct gtgtatTTT tatggttctc tatggctcat 17643  
ataagaggga caaacaatac atgaaagttc agagatgggg acaaataatca cttaagctg 17703  
gggataatca gggagaaga aagtttcat ggagaaggtg actttgaat caggaagaaa 17763  
tggaaacagc aaactcttct agatagagga gacactaaca ggaaaggcag agaggcagga 17823  
aggtgtggga aagtgcacgt gacccgttc agagagaaag ccaggtgtga gataaggggg 17883  
aaagactgtt agggcatgtt ttgtaaacca ctaattccag gcaaaagtta gatTTTactt 17943  
actaagcaag agtgcTTtagt ctagatccta gcaggaaatg gagggtatgc tttagaagagg 18003  
taactgaggc aagtttaatt tataaaggtg tgcagcat taaggaaac cagcaaggga 18063  
tactgagcat gccaggatgc aagagcaggc agggaaaggtg actattccta ggtctgaagg 18123  
agaaaggggg gggagcagg tccagaaccc tagtaaaaat ggcaatgaga aaggtccatc 18183  
tggcaggacc tatggtctt aacagaggga caaagtcaac ccacaacttg tctggaggt 18243  
tgctgaggaa tagatacccc aacctctctc tcaacccact gcaacactct tttccctta 18303  
gactgagccc agtcaaagac agagggagga gcccagtgtat gcagtctgca atgtcatcat 18363  
cctggagcat gaatagagtg cagcagggtg aataatgagt ctgcaggaat taatagaat 18423  
atctgacaca atagggact ataagagggtt ttgaatagga gaggcccctg aaatgtgctc 18483  
caatattact gaactatgtg tggccaaag aatgaaagag gaacagctct tgcaataggt 18543  
ctgaggagag aagctgaaga cttggactag ggcaatggta aaaactgtgg aaagaagtt 18603  
taaatgaaaa gttttaaacc atgcggctc cagctagatg aactttttta aaaaaattag 18663  
ttcctcactc aaattttggg gagttatat atttctaat cataaaaaat gatTTTctt 18723  
atTTTgtggc tttctcccc ag atc tga acctgtggc ttgggagcca gggtgacctg 18781  
Ile 273  
atatgacatc taaagaagct tctggactct gaacaagaat tcggggcct gcagagcttg 18841  
ccatttgcac tttcaatg ctttggatg acccagcaact ttaatctgaa acctgcaaca 18901  
agactagcca acacctggcc atgaaacttg ccccttcaact gatctggact cacctctgga 18961  
gcctatggct ttaagcaagc actactgcac ttacagaat taccctactg gatcctggac 19021  
ccacagaatt cttcaggat cttcttgct gccagactga aagcaaaagg aattatttcc 19081

## FIG. 7M

cctcaagttt tctaaagtat ttccaaaagc agaggtgtgt ggaaatttcc agtaacagaa 19141  
acagatgggt tgccaataga gttatTTTT atctatagct tcctctgggt actagaagag 19201  
gctattgaga ctatga 19217

FIG. 8

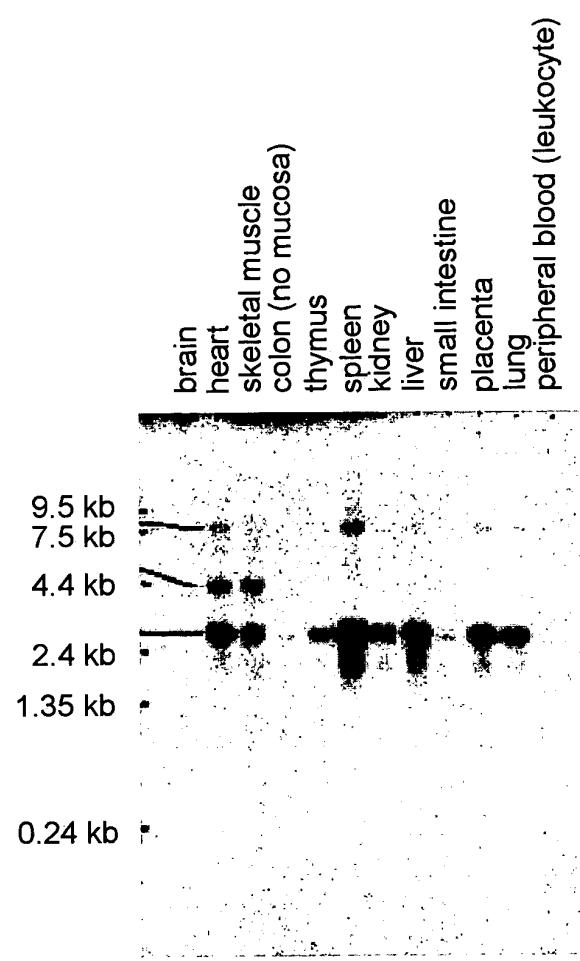


FIG. 9

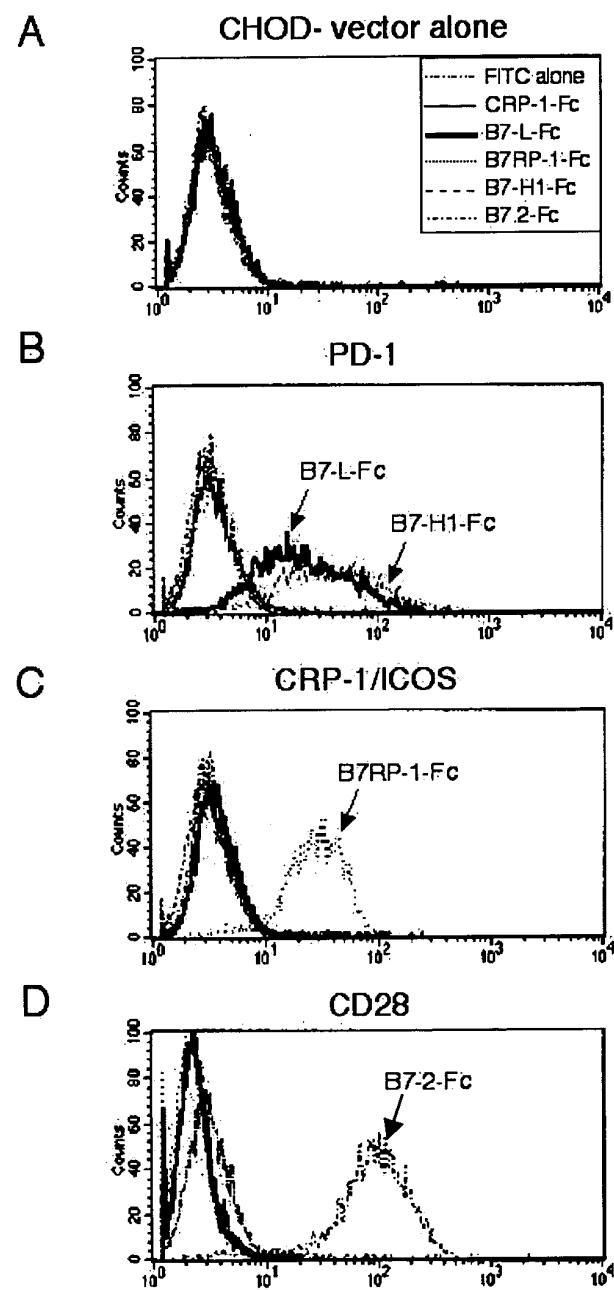


FIG. 10

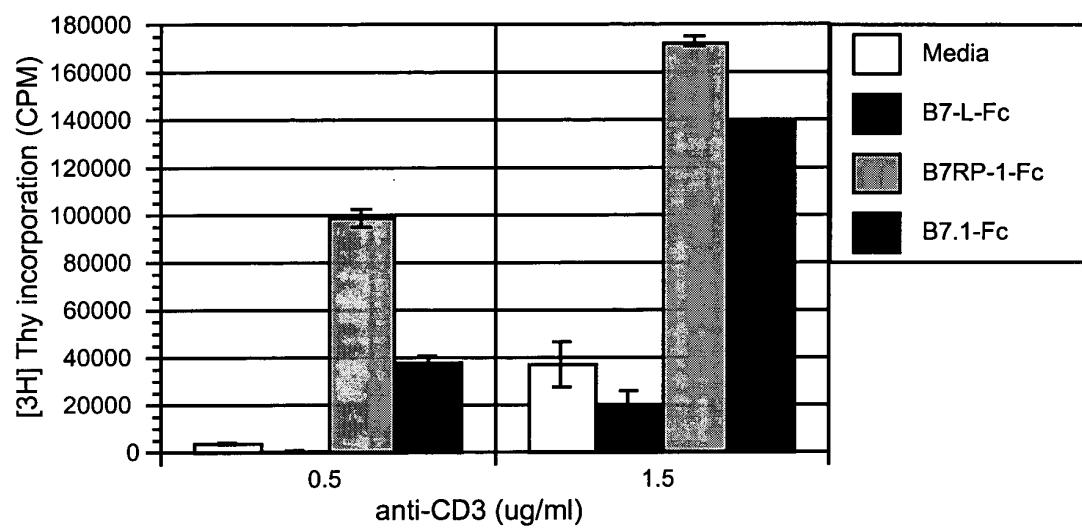


FIG. 11

